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A. L. García-Narváez
Instituto Politécnico Nacional

S. Hernández-Delgado
Instituto Politécnico Nacional, shernandezd@ipn.mx

J. L. Chávez-Servia
Instituto Politécnico Nacional

N. Mayek-Pérez
Universidad México Americana del Norte

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A.L. García-Narváez[1], S. Hernández-Delgado[1*], J.L. Chávez-Servia[2] & N. Mayek-Pérez[1,3]

[1] Centro de Biotecnología Genómica, Instituto Politécnico Nacional. Reynosa, México; [2]CIIDIR-Oaxaca, Instituto Politécnico Nacional. Oaxaca, México; [3] Universidad México Americana del Norte. Reynosa, México. *shernandezd@ipn.mx

The management and conservation of landraces and wild germplasm of *Phaseolus* have influenced the diversity levels reported in previous studies (Worthington *et al*., 2012; Soleri *et al*., 2013; Chávez-Servia *et al*., 2016). Oaxaca is located at southern Mexico and it is a complex state due its accidental geography and variable climatic composition influenced by the Gulf of México and the Pacific Ocean (García-Mendoza *et al*., 2004). The state of Oaxaca is divided into eight ethno-cultural regions (INEGI, 2017; http://www.inegi.org.mx) clearly differentiated by the presence of ethno-linguistic groups and a wide variety of landscapes, weather, wildlife and vegetation. The main linguistics families in Oaxaca are 'Zapotecos', 'Mixtecos', 'Chinantecos', 'Mixes', 'Triquis', and 'Mazatecos'; they summarize sixteen different groups each one divided in linguistic variations (Ordóñez, 2000). Agriculture is the leading activity of these ethnical groups and they maintain landraces that have been inherited (Espinosa-Pérez *et al*., 2014) by his ancestors including the involved knowledge for the conservation and agronomic management. The aim of this work was to analyze and characterize seed management systems by farmers from Oaxaca, México

Surveys (398) were conducted from October to November, 2016 into 10 communities from Oaxaca: two communities from 'Valles Centrales' (Zapotecos) region; six from 'Sierra Norte' (four of them from Chinantecos and two Mixes); and two communities at 'Mixteca' (Mixtecos). Survey included 18 questions divided into five sections: 1 (3 questions; no. of landraces and traits for identification among populations); 2 (5, agronomic management); 3 (3, utilization and preferences); 4 (5, management, conservation and seed provisioning); 5 (1, if it's a threatened genotype or accession).

This work detected 76 different local names to *Phaseolus* germplasm throughout three regions and four ethnic groups from Oaxaca. Farmers from Valles Centrales are the older bean producers (56 years-old), while chinantecos showed 53 years, mixes 52 and mixtecos 47. The most common bean local names were 'frijol delgado' (thin bean), frijol 'de milpa amarillo' (yellow milpa bean) and 'frijol de ejote bejuco' (bejuco pod bean). Chinantecos use 67 different names to their beans while mixtecos uses 57, zapotecos 50 and mixes 45. In addition, survey data indicated that is more frequent that each family to conserve their own bean germplasm generation by generation. This strategy is preferred over preserve germplasm near communities or local markets or helping by neighbors. According farmer answers, the more threatened germplasm belongs to *P. coccineus* (ayocote beans). Farmers from Valles Centrales (zapotecos) and Sierra Norte (chinantecos and mixes) identified germplasm mainly based on seed traits (color, brightness, mottled patterns, size or shape) while Mixtecos prefer identification of outstand germplasm based on flower color (Table 1). Farmers from Oaxaca have capacity to recognize intra and inter-specific variation in beans as well as the range of adaptation and capability of environmental exploitation of their own germplasm (Worthington *et al*., 2012; Espinosa-Pérez *et al*., 2015). Farmers from Oaxaca

exhibit empirical basis to classify bean germplasm without stringent rules (Soleri *et al*., 2013) but performing broad morphological and genetic patterns. Farmer classification can result in both synonyms and homonyms. Farmer classifications appears to form a bean version that best fits their own needs and circumstances. Thus, same-named seed lots could be redundant units of diversity (Soleri *et al*., 2013; Espinosa-Pérez *et al*., 2015). Local bean germplasm in Oaxaca should be the basis of *in situ* diversity assessment, collections for *ex situ* conservation, and on-farm improvement programs due such accessions play a major role in sustainable agriculture due their adaptation to local environmental conditions and consumer tastes (Worthington *et al*., 2012; Soleri *et al*., 2013; Espinosa-Pérez *et al*., 2015).

Table 1. Traits for identification of bean germplasm by four ethnic groups from Oaxaca, México.

Identification traits	Valles Centrales	Sierra Norte Chinantecos	Sierra Norte Mixe	Mixteca
Seed	42	46	70	
Pod	6	22		2
Plant	6	6	4	11
Consumption		3		
Origin (criollo)		1	2	2
Time to yield		4	5	
Sowing place				4
Tree or more traits	2			2
Seed + pod	2	4	4	
Flower color				67
Two seed traits	34	9	9	2
Seed + plant	3	1	5	2
Seed+ sowing frequency	6			
Pod + plant		1	2	
Flower color + plant				7
Total	101	97	101	99

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